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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,067	09/10/2003	Jani Klint	915-005.069	3817

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EXAMINER

NGUYEN, VAN THU T

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,067

Applicant(s)

KLINT, JANI

Examiner

VanThu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/10/03; 3/5/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Search Report</u> . |

DETAILED ACTION

1. Claims 1-20 are pending.

Claim Rejections - 35 USC § 112

2. Claims 5, 12, 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Ordinary practitioner would not consider EPROM, EEPROM, optical disk as non-volatile random access memories.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 7-10, 12, 14-15, 17, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang (U.S. Patent No. 5,056,010).

Regarding claim 1, Huang et al. disclose, in FIG. 1, a memory circuit comprising at least a non-volatile random access memory (2), a random access memory (4), and a memory controller (3) which is connected by a first bus to the non-volatile random access memory and by

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a second bus to the random access memory, wherein data can be transmitted between said non-volatile random access memory and random access memory via the memory controller, and which memory circuit further comprises a control bus (bus connecting between 3 and 6) connected to the memory controller, to control the operation of the memory circuit. (See column 3, line 34 to column 4, line 34).

Regarding claim 2, Huang also discloses, in FIG. 2, said memory controller comprises means for generating control signals (13) for writing in and reading from the non-volatile random access memory, as well as means for writing in and reading from the random access memory (see column 5, lines 5-12 and column 6, lines 5-11).

Regarding claims 3-4, Huang further discloses, in FIG. 1, said random access memory comprises a two-port memory; wherein the first port of said random access memory is connected to said second bus, and that the second port of said random access memory is connected to a third bus of the memory circuit, to connect the random access memory to an external bus.

Regarding claim 5, Huang also discloses said non-volatile random access memory being a fixed disk.

Regarding claims 7-10, 12, they are rejected under U.S.C. 102(b) since they recite the same limitation as in claims 1-5.

Regarding claims 14-15, 17, Huang further discloses, beside claimed limitation in claims 1-5, a processor (6, see FIG. 1).

Regarding claim 20, it encompasses the same scope of invention as to that of claim 1 except it drafts in method format instead of apparatus format. The claim is therefore rejected for the same reason as set forth above.

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6. Claims 1-2, 5-8, 11-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Miura et al. (U.S. Patent Application No. 2002/0185337).

Regarding claim 1, Miura et al. disclose, in FIG. 1, a memory circuit comprising at least a non-volatile random access memory (FLASH), a random access memory (DRAM), and a memory controller (CTL_LOGIC) which is connected by a first bus (all lines from CTL_LOGIC to FLASH) to the non-volatile random access memory and by a second bus (all lines from CTL_LOGIC to DRAM) to the random access memory, wherein data can be transmitted between said non-volatile random access memory and random access memory via the memory controller, and which memory circuit further comprises a control bus (all lines on the left of CTL_LOGIC) connected to the memory controller, to control the operation of the memory circuit.

Regarding claim 2, Miura et al. disclose, in FIG. 2, said memory controller comprises means for generating control signals for writing in and reading from the non-volatile random access memory, as well as means for writing in and reading from the random access memory (FGEN and COM_GEN, respectively).

Regarding claims 5-6, Miura et al. also discloses said non-volatile random access memory being a flash memory; and said random access memory being a DRAM type.

Regarding claims 7-8, 12-13, they are rejected under U.S.C. 102(e) since they recite the same limitation as in claims 1-2, 5-6.

Regarding claim 11, FIG. 1 of Miura et al. also shows that all lines on left of CTL_LOGIC are used for transmission of commands (such as from CLK ... WAIT) and data (such as DQ0-DQ15).

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Regarding claims 14-18, Miura et al. further discloses, beside claimed limitation in claims 7-8 and 11-13, a processor (CPU, see FIG. 45).

Regarding claim 19, Miura et al. also disclose the memory controller comprises means for refreshing the dynamic random access memory (see paragraph [0016]).

Regarding claim 20, it encompasses the same scope of invention as to that of claim 1 except it drafts in method format instead of apparatus format. The claim is therefore rejected for the same reason as set forth above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6, 13, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang.

Regarding claim 6, Huang does, as applied in prior rejection, all claimed subject matter except the RAM being a DRAM/SRAM/UtRAM type. However, it would have been obvious to one with ordinary skill in the art to realize that there are usually two types of RAM used as buffer, which are DRAM and SRAM, because they have fast access timing.

Regarding claim 13, it is rejected under U.S.C. 103(a) since it recites the same limitation as in claim 6.

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Conclusion

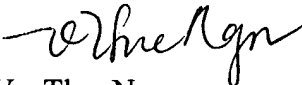
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881.

The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VTN
September 13, 2004


VanThu Nguyen
Primary Examiner
Art Unit 2824